An Open Implementation Toolkit for Creating Adaptable Distributed Applications

Adaptive Application

Alternate Implementations

CORBA + QuO

Broken Connection

Server

Corrupted Server

Server

New Ideas

- Support multiple implementations with different characteristics for subsystems
- Support specification of acceptable operating ranges and configurations under which each is valid (in QuO's QDL language)
- Recognize and notify when a subsystem is operating outside its acceptable range
- Provide runtime measurement of selective system behavior to help determine the cause of a malfunction or attack
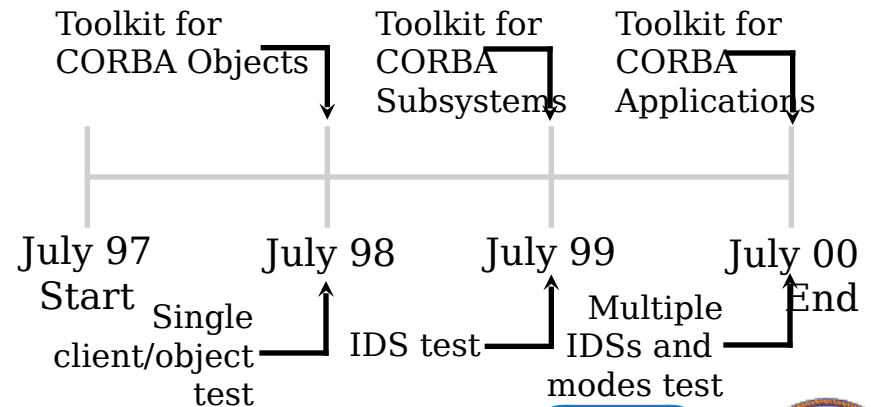- Select an alternate implementation based upon the configuration information to avoid the problem

Impact

- Enable the building of more survivable, attack-resistant, adaptable systems
- Increased predictability for critical distributed systems in uncertain wide-area environments
- Support for intrusion detection and containment research increasing the security and reliability of distributed military, financial, and other critical systems

Schedule

Toolkit for CORBA Objects

Toolkit for CORBA Subsystems

Toolkit for CORBA Applications

July 97 Start

July 98

July 99

July 00 End

Single client/object test

IDS test

Multiple IDSs and modes test

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INTERNETWORKING
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